

Notice of Allowability

Application No.

10/771,971

Examiner

Filip Zec

Applicant(s)

KORIN, AMOS

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Request for Reconsideration filed on 7/11/2005.
2. ☒ The allowed claim(s) is/are 37-46.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

REASONS FOR ALLOWANCE

1. The following is an examiner's statement of reasons for allowance: the prior art does not anticipate nor render obvious the combination set forth in the independent claims, and specifically does not show a system for pumping thermal energy, comprising a heater for heating a liquid, a gas-liquid contactor for adding vapor from said liquid to a process gas to produce a vapor-containing gas, and a membrane permeator for removing said vapor from said vapor-containing gas and for providing a resultant vapor, wherein said system transfers a quantity of thermal energy from said heater to said resultant vapor.

2. U.S. Patent 4,786,301 to Rhodes, Barry V. teaches a method of air conditioning contemplates drawing building air to be conditioned through an adsorb air passageway, preconditioning the air by initially moisturizing or humidifying the air to substantially 100% relative humidity and adding heat to the moisture-laden air extracted from the air exiting from the desiccant bed. U.S. Patent 5,843,209 to Ray, Roderick J. et al. teaches a membrane-based vapor permeation system for selective removal of a vapor from a fluid feed stream, wherein a countercurrent sweep stream is used that has a particular partial pressure of the vapor to be removed. U.S. Patent 6,539,728 to Korin, Amos teaches a system including a membrane permeator having a permselective membrane capable of selectively removing vapor from a vapor-containing gas to yield a dry gas, a heat pump having an internal side for exchanging thermal energy with a process fluid, an external side for exchanging thermal energy with an external environment, and a thermodynamic mechanism for pumping thermal energy between the internal side and the external side in either direction, means for conveying the vapor-containing gas into the membrane permeator, and means for routing the dry gas to either of the

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internal side or the external side. However, none of these prior art references teach a system for pumping thermal energy, comprising a heater for heating a liquid, a gas-liquid contactor for adding vapor from said liquid to a process gas to produce a vapor-containing gas, and a membrane permeator for removing said vapor from said vapor-containing gas and for providing a resultant vapor, wherein said system transfers a quantity of thermal energy from said heater to said resultant vapor.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Filip Zec whose telephone number is (571) 272-4815. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Melba Bumgarner can be reached on 571-272-4709. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Filip Zec
Examiner
Art Unit 3744

FZ


WILLIAM DOERRLER
PRIMARY EXAMINER